APRIL/MAY 2023

CEL42 — ELECTRONIC COMMUNICATION SYSTEMS

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is mean by balanced modulator?

2. List the uses of SSB Modulation.

3. Define frequency modulation.

4. Define Deviation Ratio

5. List the advantages of PCM

6. Why PCM is more noise-resistant than the other forms of pulse modulation?

7. What are its two basic forms of multiplexing?

8. List the advantages of digital communication.

9. Why is the maximum radiation from a half-wave dipole in a direction at right angles to the antenna?

10. Define Beam width polarisation

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write a short note on evolution of SSB Modulation.

Or

(b) Show how to derive the equation normally used to describe a nonlinear resistance

12. (a) Illustrate the reactance modulators.

Or

(b) Explain the varactor diode modulators.

13. (a) Explain the generation and demodulation of PCM using diagram.

Or

(b) Discuss a the terms bandwidth and polarization.

14. (a) Obtain the expression for directive gain.

Or

(b) Describe about communication satellite.

15. (a) Obtain the expression for directive gain.

Or

(b) Explain the parabolic dish antennas with a neat diagram.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Briefly explain the function of each of the blocks in the superheterodyne receiver.

17. Derive the mathematical expression of modulated wave of FM.

18. Explain one complete cycle of some irregular waveform is quantized using eight standard levels.

19. Explain how satellites used for worldwide communications in preference to any other kind.

20. Elaborate the antenna's arrays (or) Discuss about Folded Dipole antennas and its Application.

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